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FEOREMA.

Hay numeros cuyo cuadrado se compond de la suma de una serie de cubos. j Cuales son estos numeros ? Fomernos la serie de los numeros naturales principrando por uno y vayamos hasta un numero calquiera, por ejemplo, hasta diez, asi.

1	2	3	4	5	6	7	8	9	10
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Debajo de estos numeros pongamos sus cubos asi

1	2	3	4	5	6	7	8	9	10
1	8	27	64	125	216	343	512	729	1000

Sumemos estos cubos de manera que el primero venga á colo carse bajo el primer numero, la suma del primero y del segundo, bajo el segundo cubo : la suma, del primero segundo y tercero, bajo el tercero, y asi sucesuamente, tendremos

1	2	3	4	5	6	7	8	9	10
1	8	27	64	125	216	343	512	729	1000
1	9	36	100	225	441	784	1296	2025	3025

y encontraremos que la suma de dichos cubos son cuadrados y sus raices son

1	2	3	4	5	6	7	8	9	10
1	8	27	64	125	216	343	512	729	1000
1	9	36	100	225	441	784	1296	2025	3025
Raiz 1	3	6	10	15	21	28	36	45	55

Consideremos estas y raices veremos que son la suma de los términos de progresiones aritmeticas principrando por uno y segundo por los numeros naturales hasta cualquier numero que se desee y desde luego podremos formular el tevrema del modo siguiente.

Los cuadrados de los numeros que indican la suma de los términos de progresiones aritmeticas, principrando por uno y siguiendo por los numeros naturales ; dichos cuadrados decimos, son iguales á la suma de los cubos de todos los numeros que entran en dicha progresion : ver : gr :

300. Es la suma de los terminos de una progresion aritmetica principrando por uno y acabando por veinte y cuatro y

300 elevado á la segunda potencia = $1^3 + 2^3 + 3^3 + 4^3 + \dots + 24^3$.

J. M. MONSANTO.

TRANSLATION.

THEOREM.

There are numbers whose square is composed of the sum of a series of cubes. Which are these numbers ?

Let us take the series of the primary numbers beginning with one and let us proceed as far as any number, for example, as far as ten, thus

1	2	3	4	5	6	7	8	9	10
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Under these numbers let us place their cubes thus

1	2	3	4	5	6	7	8	9	10
1	8	27	64	125	216	343	512	729	1000

Let us add these cubes in such a way that the first comes to be placed under the first number, the sum of the first and the second under the second cube ; the sum of the first, second and third, under the third cube, and so on, we shall have

1	2	3	4	5	6	7	8	9	10
1	8	27	64	125	216	343	512	729	1000
1	9	36	100	225	441	784	1296	2025	3025

and we shall find that the sum of the said cubes are squares, and their roots are

1	2	3	4	5	6	7	8	9	10
1	8	27	64	125	216	343	512	729	1000
1	9	36	100	225	441	784	1296	2025	3025
1	3	6	10	15	21	28	36	45	55

Let us consider these roots and we shall see that they are the sum of the terms of an arithmétical progression beginning with one and continuing through the primary numbers as far as any number desired, and therefore we can formulate the theorem in the following manner :

The squares of the numbers that indicate the sum of the terms of an arithmétical progression, beginning with one and continuing through the primary numbers, said squares, we repeat, are equal to the sum of the cubes of all the numbers that enter in the said progression : for example 300^2 . 300^2 is the sum of the terms of an arithmétical progression beginning with 1 and ending with 24, and 300 raised to the second power= $1^3 + 2^3 + 3^3 + 4^3 + \dots + 24^3$.

J. M. MONSANTO.

NOTE.—This rare bit of original mathematical work by J. M. Monsanto, with its translation, was sent to us by Dr. Halsted.

ED. F.